



TORONTECH

PE-UHMW ABRASION RESISTANCE TESTER - TORONAT™ -UHMW



PE-UHMW Abrasion Resistance Tester - ToronAT™ -UHMW – ISO 15527 Compliant is designed to measure the wear performance of ultra-high molecular weight polyethylene (PE-UHMW) and high-density polyethylene (PE-HD). It is an essential testing tool for quality control during factory inspections, incoming materials evaluation, and product comparison in resin-based industries.

Controlled by a microcomputer, the device accurately displays real-time rotation speed and temperature on its panel. It also allows countdown settings directly on the interface. This control system ensures reliable readings with high precision and no delay in response.

APPLICATIONS

Standards

1. ISO 15527
2. SH/T 1818
3. TCSTM 00173
4. DB51/T 2450

FEATURES

PE-UHMW Abrasion Resistance Tester Features

Consistent Rotation Across All Six Stations

PE-UHMW Abrasion Resistance Tester - ToronAT-UHMW is equipped with six stations, allowing simultaneous testing on six specimens. Each station is driven by a synchronous belt connected to a single spindle motor, ensuring uniform rotation speed across all stations. This setup enhances result consistency and comparability.

Automatic Lifting System for High Efficiency and Safety

The lifting mechanism uses a single capacitor motor and chain structure to raise and lower the rotating specimen system. It can stop at any point within the travel range, making it easy to observe and access specimens. Dual-limit protection is built in—if the primary limit fails, the secondary limit immediately cuts power for added safety.

Immersed Abrasion Test Cup Design

The test cup lid fits securely into a circular groove to prevent slurry spillage during specimen rotation. Three upper springs press the lid into place, providing a tight, secure seal.

Independent Cooling System

All six test cups sit in a ring-shaped water tank. Slurry temperature is controlled by water cooled through copper tubing connected to an independent refrigeration unit. This setup ensures all cups maintain a consistent temperature with less than 1°C variance.

Rotating Specimen Disk with External Stirring System

Components such as the handle, stirring shaft, test cup lid, test cup, and water tank are made from stainless steel, offering enhanced corrosion resistance and easier maintenance.

Automated Testing with Real-Time Monitoring

The digital control panel allows users to set the test duration (default is a 3-hour countdown). The timer activates automatically when the test begins, and real-time data on slurry temperature and specimen rotation is displayed, streamlining operation and reducing manual effort.

TECHNICAL SPECIFICATIONS

Model	ToronAT™-UHMW
Number of instrument test stations	6
Rate of rotation	800 to 1400 r/min
Rotation control precision	1% (≥ 1000 r/min); 10 r/min (< 1000 r/min)
Rate of rotation display resolution	1 r/min
Timing accuracy	1s
Timing deviation	0.1%
Temperature display resolution	0.1 °C
Temperature control accuracy	± 0.5 °C
Tank volume	35 liters
Mortar ratio in each test cup	450g silica sand, 300g water
Refrigeration power	5.1 KW
Refrigeration medium	Water
Voltage	220V AC 2Kva (110V is also available)
Dimensions (L × W × H)	1.2 × 0.5 × 1.2 m
Weight	220 kg



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